

In the Specification:

Please amend the following paragraphs, as indicated below:

Page 5, last paragraph, bridging to page 6:

The processing unit to which the microelectronic workpiece is delivered, and which can be influenced by the control unit, can include, for example, a stripping unit, a ~~disposition-deposition~~ unit, or an anneal unit. These processing units can be integrated into a tool along with the metrology unit, or, alternatively, these processing units can be positioned in housings separate from the metrology unit.

Page 6, first two full paragraphs and last paragraph bridging to page 7:

In a further aspect of the invention, the stripping unit can be configured to chemically strip part of the layered portion from the microelectronic substrate. Accordingly, the stripping unit can include a rotor motor and a workpiece housing connected to the rotor motor so that it rotates with the rotor motor. The workpiece housing can define a closed processing space that is coupleable to sources of one or more processing fluids so as to distribute the processing fluids across at least one face one of the workpiece, for example, by ~~centripetal acceleration~~ centrifugal force as the housing rotates. Accordingly, the device can more accurately control the interaction between the processing fluid and the workpiece, and increase the yield of the workpiece.

In yet a further aspect of the invention, the processing unit can include a ~~disposition-deposition~~ unit, such as an electrochemical deposition unit, that is configured to dispose a layer of material on the microelectronic substrate. The ~~disposition-deposition~~ unit can include a reaction vessel having an outer container configured to introduce a primary flow and a secondary flow that is separate from the primary flow. The reaction vessel can further include a dielectric field shaping unit configured to contain the secondary flow separate from the primary flow, and can include an electrode compartment (with an electrode) through which the secondary flow

can pass while remaining separate from the primary flow. The field shaping unit can create a virtual electrode such that the workpiece is shielded from the electrode. This allows for use of larger electrodes to increase electrode life, eliminates the need to "burn-in" electrodes to decrease downtime, and/or provides the capability of manipulating the electrical field by merely controlling the electrical current to one or more of the electrodes in the vessel.

In another aspect of the invention, the disposition-deposition unit can include a power control system connected to a power supply to control at least one electrical power parameter associated with independently connected electrodes in the reactor. The power control system can set the electrical power parameter for one of the independently connected electrodes based on one or more inputted parameters and a plurality of predetermined sensitivity values. The predetermined sensitivity values can correspond to process perturbations resulting from perturbations of the electrical power parameter for the given one of the independently connected electrodes. Accordingly, the electrical power provided to each workpiece can be tailored to that workpiece.

Page 14, last paragraph:

Figure 2 illustrates in schematic fashion a processing tool 200 in accordance with an embodiment of the present invention. The tool 200 can include an input/output station 224 at one end, a transfer device, such as a linear conveyor arrangement or linear robot 226 extending from the input/output station along a length of the tool 200, and a number of processing stations. The processing stations can include a metrology unit 228, one or more ECD seed layer enhancement units 232, one or more stripping units 236, and/or one or more plating or other disposition-deposition units 240. Additionally, the tool 200 can include one or more annealing units 244 and a non-process station or staging station 248.

Page 16, last paragraph, bridging to page 17:

The electroplating units 240 can include adjustable reactors (described below) or other type reactors that can adapt to varied electrochemical processing requirements while concurrently providing a controlled, substantially uniform diffusion layer and electrical potential at the surface of the microelectronic workpiece that assists in providing a corresponding substantially uniform processing of the microelectronic workpiece surface (e.g., uniform disposition, deposition, or other application of the electroplated material). The electroplating units 240 can be controlled by the controller 270 (Figure 2) to compensate for non-uniformities of the seed layer determined by the metrology unit. Such electrochemical processing techniques can be used in the deposition and/or alteration of blanket metal layers, blanket dielectric layers, patterned metal layers, and patterned dielectric layers.

Page 18, last paragraph, bridging to page 19:

An embodiment of the tool 400 includes fewer processing stations than the tool 300 shown in Figure 3. The tool 400 can include two electroplating or other disposition deposition units 240, an in-line metrology unit 228, an annealing unit 244, a seed layer enhancement unit 232, and two stripping and/or cleaning units 236 for stripping films or backside cleaning as needed. The tool 400 can also include a staging station 248, in this case configured as a wafer pre-aligner 248b.

Page 21, next to last full paragraph:

Figure 9 illustrates a system 900 in accordance with another embodiment of the invention for processing a microelectronic workpiece. The system 900 can include a seed layer tool 906, an ECD or other disposition deposition tool 910, and a chemical mechanical polishing tool 916.

Page 23, last full paragraph:

Figure 10 illustrates another multi-tool or multi-station system 1000 wherein metrology control can be used. A photoresist deposition ~~or disposition~~ station 1010 applies photoresist to a workpiece. The workpiece photoresist layer thickness can then be measured by a metrology unit 1020. The workpiece is then exposed in a photoresist exposure station 1026 and then developed in a photoresist develop station 1030. A further metrology unit 1036 can then measure the workpiece layer thickness, or pattern dimension. Through a controller 1040, the metrology unit 1020 can feed forward to control the photoresist develop station 1026 or feed back to control the photoresist deposition station 1010. The further metrology unit 1036 can feed back to control the photoresist develop station 1030, via the controller 1040. The controller can be a programmable controller.

Page 24, first two full paragraphs:

Examples of embodiments of the stripping unit 236 (Figures 2-4) are described in "Micro-Environment For Processing A Workpiece", PCT/US99/05676 filed March 15, 1999 and in "Selective Treatment Of A Microelectronic Workpiece", PCT/US99/05674 filed March 15, 1999, both herein incorporated by reference. The "stripping units" can be multifunctional processing capsules which can perform cleaning, stripping, bevel etching, rinsing and drying. In one embodiment, the stripping unit can include a rotor motor connected to a microelectronic workpiece housing to rotate the housing. The microelectronic workpiece housing can define an at least partially closed processing chamber therein in which one or more processing fluids are distributed across at least one face of the microelectronic workpiece, for example, by centripetal accelerations centrifugal forces generated during rotation of the housing.

The microelectronic workpiece housing can include an upper chamber member having a fluid inlet opening and a lower chamber member having a fluid inlet opening. The upper chamber member and the lower chamber member are joined to one another to form the substantially closed processing chamber. The processing chamber

generally conforms to the shape of the microelectronic workpiece and includes at least one fluid outlet disposed at a peripheral region thereof. At least one microelectronic workpiece support is provided. The support is adapted to support a microelectronic workpiece in the processing chamber in a position to allow ~~centripetal acceleration distribution of centrifugal forces to distribute~~ a fluid supplied through the inlet opening of the upper chamber member across at least an upper face of the microelectronic workpiece when the microelectronic workpiece housing is rotated. The wafer is further positioned by the support to allow ~~centripetal acceleration~~ centrifugal force distribution of a fluid supplied through the inlet opening of the lower chamber member across at least a lower face of the microelectronic workpiece during the rotation. The at least one fluid outlet is positioned to allow extraction of fluid in the processing chamber through the action of centrifugal forces~~centripetal acceleration~~.

Page 27, first full paragraph:

A reactor suitable for executing the foregoing removal process may generally be comprised of upper and lower members that define an upper chamber and a lower chamber with respect to the workpiece contained therein. A centrally disposed inlet is provided to each of the upper and lower chambers for supplying one or more processing fluids. Fluid outlets are disposed at peripheral portions of the chambers and are adapted to assist in the exclusion of one processing fluid from the outer margin of the workpiece while allowing intrusion of an etchant thereat. The upper and lower chambers are rotated conjointly so as to distribute a processing fluid in the upper chamber across an upper side of the workpiece through ~~centripetal acceleration~~ centrifugal forces and so as to distribute a processing fluid in the lower chamber across a lower side of the workpiece through centrifugal forces~~centripetal acceleration~~. Depending upon the processes being performed, however, the processing fluids in the upper and lower chambers may be the same fluid or different fluids.

Page 34, last paragraph, bridging to page 35:

The electroplating (or other electrical or non-electrical) ~~disposition-deposition~~ units 240, 940 of the tools 200, 300, 400, 910 can each include a plating reactor such as described in "Improved Anode Assembly For Electroplating Apparatus", U.S. Serial No. 09/112,300 filed July 9, 1998, or an adjustable plating reactor as described in "Workpiece Processor Having Processing Chamber With Improved Processing Fluid Flow", PCT/US00/10210 filed April 13, 2000 or "System For Electrochemically Processing A Workpiece", PCT/US00/10120 filed April 13, 2000, WO 00/14308 March 16, 2000, all herein incorporated by reference. Alternate reactor types are described in WO 00/20663, published April 13, 2000; WO 99/10566, published March 4, 1999; WO 99/54527, published October 28, 1999; WO 99/54920, published October 28, 1999; and WO 99/25904, published May 27, 1999, and are encompassed by the invention and incorporated herein by reference.

Page 94, last full paragraph:

Another process for depositing a layer (such as copper) onto a microelectronic workpiece is known as "electroless" plating. Unlike an electroplating reactor, electroless plating does not conduct external electrical power to the surface of a microelectronic workpiece. A catalytic material is used to effect plating of the material on the microelectronic workpiece. Electroless plating reactors and corresponding processes are disclosed in WO 00/03072, published January 20, 2000; and U.S. Patents 5,500,315; 5,389,496; and 5,139,818, all incorporated herein by reference. Electroless plating can be used instead of electroplating, or can be used to perform seed layer enhancement. Accordingly, an electroless unit can be used in place of (or in addition to) the electroplating units 240 (Figures 2-4) to ~~dispose-deposit~~ material on a microelectronic workpiece.